

CLAIMS

What is claimed is:

- 1 1. A medical appliance for placement within a portion of
2 the anatomy of a patient, the appliance comprising:
3 a scaffolding, the scaffolding configured to define a
4 substantially cylindrical member having a proximal end and a
5 distal end having a internal diameter larger than that of the
6 proximal end and the substantially cylindrical member
7 extending longitudinally there between, forming a lumen there
8 through, such that when pressure is exerted along varying points
9 of the longitudinal extension of the appliance, the appliance
10 does not undesirably foreshorten or elongate.
- 1 2. The medical appliance of claim 1, wherein along the
2 longitudinal extension of the appliance, the scaffolding forms
3 geometrical patterns.
- 1 3. The medical appliance of claim 2, wherein the scaffolding
2 further comprises a coating coupled with the scaffolding, the coating
3 of sufficient thickness to prevent the medical appliance from
4 becoming epithelialized when installed in the desired portion of the
5 patient's anatomy.
- 1 4. The medical appliance of claim 3, wherein the coating
2 does not inhibit flexing or radial expansion of the medical appliance.
- 1 5. The medical appliance of claim 4, wherein the coating is
2 coupled with the medical appliance.

1 6. The medical appliance of claim 2, wherein the dimensions
2 of the scaffolding geometry determine torsionality of the medical
3 appliance.

1 7. The medical appliance of claim 1, wherein the scaffolding
2 is formed of a memory capable alloy.

1 8. The medical appliance of claim 7, wherein the scaffolding
2 is electropolished.

1 9. The medical appliance of claim 1, wherein the scaffolding
2 of the medical appliance further comprises a plurality of eyelets there
3 through for receiving suture.

1 10. The medical appliance of claim 2, further comprising a
2 connector coupled with portions of the geometrical patterns, the
3 connector comprising a crossing member and a plurality of leg
4 members extending from the crossing member.

1 11. The medical appliance of claim 10, wherein the
2 connector further comprises a rectangular detent extending from a
3 leg thereof.

1 12. The medical appliance of claim 10, wherein the length of
2 the leg members and the degree of the angle at which the legs
3 extend from the crossing member determines the relative flexibility of
4 the medical appliance.

1 13. The medical appliance of claim 12, wherein the angle at
2 which the leg members extend from the crossing member is greater
3 than 90°.

1 14. The medical appliance of claim 13, wherein the medical
2 appliance is relatively rigid.

1 15. The medical appliance of claim 13, wherein the angle at
2 which the leg members extend from the crossing member is 90° or less.

1 16. The medical appliance of claim 14, wherein the medical
2 appliance is relatively flexible.

1 17. The medical appliance of claim 2, wherein the
2 geometrical patterns are substantially U-shaped.

1 18. The medical appliance of claim 2, wherein the
2 geometrical patterns are substantially W-shaped.

1 19. The medical appliance of claim 2, wherein the
2 geometrical patterns are substantially V-shaped.

1 20. The medical appliance of claim 2, wherein the
2 geometrical patterns are substantially Z-shaped.

1 21. The medical appliance of claim 2, wherein the
2 geometrical patterns are substantially S-shaped.

1 22. The medical appliance of claim 2, wherein the
2 geometrical patterns are substantially X-shaped.

1 23. The medical appliance of claim 1, further comprising an
2 additional distal end wherein the medical appliance forms a
3 substantially Y-shape.

1 24. The medical appliance of claim 23, wherein along the
2 longitudinal extension of the appliance, the scaffolding forms
3 geometrical patterns.

1 25. The medical appliance of claim 24, wherein the
2 scaffolding further comprises a coating coupled with the scaffolding,
3 the coating of sufficient thickness to prevent the medical appliance
4 from becoming epithelialized when installed in the desired portion of
5 the patient's anatomy.

1 26. The medical appliance of claim 25, wherein the
2 dimensions of the scaffolding geometry determine torsionality of the
3 medical appliance.

1 27. The medical appliance of claim 25, wherein the
2 scaffolding is formed of a memory capable alloy.

1 28. The medical appliance of claim 26, wherein the
2 scaffolding is electropolished.

1 29. The medical appliance of claim 25, wherein near the
2 distal and proximal ends of the scaffolding the medical appliance
3 further comprise a plurality of flanges that define apertures there
4 through.

1 30. The medical appliance of claim 23, further comprising a
2 connector member coupled with portions of the geometrical
3 patterns, the connector comprising a crossing member and a plurality
4 of leg members extending from the crossing member.

1 31. The medical appliance of claim 30, wherein the
2 connector further comprises a rectangular detent extending from a
3 leg thereof.

1 32. The medical appliance of claim 30, wherein the length of
2 the leg members or the degree of the angle at which the legs extend
3 from the crossing member positively contributes to the relative
4 flexibility of the medical appliance.

1 33. The medical appliance of claim 32, wherein the angle at
2 which the leg members extend from the crossing member is greater
3 than 90°.

1 34. The medical appliance of claim 33, wherein the medical
2 appliance is relatively rigid.

1 35. The medical appliance of claim 32, wherein the angle at
2 which the leg members extend from the crossing member is 90° or less.

1 36. The medical appliance of claim 35, wherein the medical
2 appliance is relatively flexible.

1 37. The medical appliance of claim 23, wherein the
2 geometrical patterns are substantially U-shaped.

1 38. The medical appliance of claim 23, wherein the
2 geometrical patterns are substantially W-shaped.

1 39. The medical appliance of claim 23, wherein the
2 geometrical patterns are substantially V-shaped.

1 40. The medical appliance of claim 23, wherein the
2 geometrical patterns are substantially Z-shaped.

1 41. The medical appliance of claim 23, wherein the
2 geometrical patterns are substantially S-shaped.

1 42. The medical appliance of claim 23, wherein the
2 geometrical patterns are substantially X-shaped.

1 43. A method of treating a patient suffering from luminal
2 irregularities, comprising the steps of:

3 providing a medical appliance comprising a scaffolding,
4 the scaffolding configured to define a substantially cylindrical
5 member having a proximal end and a distal end having a
6 internal diameter larger than that of the proximal end and the
7 substantially cylindrical member extending longitudinally there
8 between, forming a lumen there through, such that when
9 pressure is exerted along varying points of the longitudinal
10 extension of the appliance, the appliance does not undesirably
11 foreshorten or elongate;

12 installing the medical appliance in a preferred location of
13 the anatomy of the patient; and

14 activating the expansion of the medical appliance in the
15 desired location.

1 44. The method of claim 43, wherein the preferred location is
2 a non-vascular lumen.

1 45. The method of claim 44, further comprising the step of
2 removing the medical appliance from the anatomy of the patient.

1 46. The method of claim 44, wherein the medical appliance
2 further comprises anti-microbial agents coupled therewith.

1 47. The method of claim 44, wherein the medical appliance
2 further comprises chemotherapeutic agents coupled therewith.

1 48. The medical appliance of claim 43, further comprising an
2 additional distal end wherein the medical appliance forms a
3 substantially Y-shape.

1 49. A method of removing a medical appliance from a
2 patient, comprising the steps of:

3 locating the medical appliance comprising a scaffolding,
4 the scaffolding configured to define a substantially cylindrical
5 member having a proximal end and a distal end having a
6 internal diameter larger than that of the proximal end and the
7 substantially cylindrical member extending longitudinally there
8 between and defining a plurality of eyelets along the
9 longitudinal expanse thereof and suture threaded there
10 through, the scaffolding forming a lumen there through, such
11 that when pressure is exerted along varying points of the
12 longitudinal extension of the appliance, the appliance does not
13 undesirably foreshorten or elongate;

14 grasping the suture threaded through the eyelets of the
15 medical appliance;

16 pulling on the suture to reduce the outward radial force
17 of the medical appliance; and

18 removing the medical appliance from the patient.

1 50. An article of manufacture for placement in the intestinal
2 system of a patient wherein said patient has had the Sphincter of
3 Oddi rendered inoperable, the article comprising an annular ring for

- 4 placement about the location of the Sphincter of Oddi to prevent
- 5 the reocclusion of the intestinal tract.